

## **Mobile Field Trailer Highlights U.S. EPA's Small Systems Research Capabilities**

*What help is available for small drinking water systems?*

U.S. EPA's National Risk Management Research Laboratory provides alternatives for treating, distributing, and maintaining drinking water quality to meet the regulatory requirements of the Safe Drinking Water Act. Through studies conducted by the Water Supply and Water Resources Division in Cincinnati, Ohio, the Agency is enabling small system operators to make better decisions on the selection and use of treatment technologies to supply consistently safe drinking water to their users. Guidance resulting from these small system studies has been published in the Small Drinking Water Systems Handbook, A Guide to "Packaged" Filtration and Disinfection Technologies with Remote Monitoring and Control Tools", EPA/600/R-03/041, May 2003.

A mobile trailer (12'Lx8'Wx8'H) has been customized to conduct contaminant-specific treatment studies on ground and surface waters in remote locations. Small system treatment technologies available for research studies include UV/ozonation, reverse osmosis, and ion exchange units. Recent studies have focused on contaminants such as methyl tertiary butyl ether (MTBE), arsenic, and perchlorate. The mobile trailer accommodates a portable generator for electric power in remote locations, a 110-gallon feed tank with a feed pump, a pretreatment system (for iron, manganese, and hardness removal), and a post-treatment granular activated carbon system (for residual contaminant removal).

The U.S. EPA Water Quality Management Branch is performing treatability studies on various ground and surface waters for the destruction of MTBE and its treatment byproducts using advanced oxidation processes. A UV/ozone field unit has been designed, built, and shipped to the University of Puerto Rico/Mayaguez for graduate-level research on groundwater contamination. U.S. EPA has developed, constructed, and demonstrated packaged treatment systems on a wide range of source waters in Ohio, New England, and West Virginia. These demonstrations have highlighted the capabilities of remote monitoring technologies for operation and data collection resulting in the concept of the viable, cost-effective, "electronic circuit rider".